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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,595	01/10/2002	Masashi Tanaka	107355-00051	5096

7590 03/04/2003

ARENT FOX KINTNER PLOTKIN & KAHN, PLLC  
1050 Connecticut Avenue, N.W. Suite 600  
Washington, DC 20036-5339

EXAMINER

SY, MARIANO ONG

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 03/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/041,595

Applicant(s)

TANAKA ET AL.

Examiner

Mariano Sy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

1. The disclosure is objected to because of the following informalities:

page 12, line 15 "15to 17" should be --15 to 17--,

Claim 3, lines 4-5 "an rotatable output shaft" should be --a rotatable output shaft--,

Claim 5, line 7 "an rotatable output shaft" should be --a rotatable output shaft--.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "said output ring" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "said wedge rollers" in line 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "said output ring" in line 3. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kajino et al. (U.S. Patent Number 5,857,380).

Re-claim 1 Kajino et al. discloses, as shown in 10, an engine starting apparatus comprising: a driven gear 14; a starter motor 2; a speed-reduction and power-cut-off mechanism connected to said starter motor and having a rotatable output shaft 4, said speed-reduction and power-cut-off mechanism being adapted to output a rotation of said starter motor from said output shaft while reducing the rotational speed of the starter motor and to cut off power transmission between starter motor and said output shaft when rotational speed of said output shaft exceeds the reduced rotational speed of the starter motor; a drive gear 65 provided on the output shaft to move axially over said output shaft between engagement and disengagement position with said driven gear; and a driving unit 3 driving said drive gear to said engagement position when engine is started and to said disengagement position after engine has been started.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 2, 3, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kajino et al. in view of Otaki et al. (U.S. Patent Number 5,931,759).

Re-claims 2 and 3 Kajino et al. fails to disclose wherein the speed-reduction and power cut-off mechanism is constituted by a wedge roller type speed reduction mechanism. Otaki et al. teaches, as shown in fig. 5-7, the use of a friction-roller type speed reduction mechanism including a plurality of rollers 12a-12c rotatably disposed around a rotational shaft 7 of motor 19, a rotatable output shaft 33 having an outer ring 9 disposed around said plurality of rollers, said rotational shaft being offset from a rotational center of said outer ring, one of said rollers being movable between said rotational shaft and said outer ring, see col. 1, lines 4-16. It would have been obvious to one of ordinary skill in the art to have merely utilized the known wedge roller type speed reduction mechanism into the engine starting apparatus of Kajino et al., in view of the teaching of Otaki et al., in order to generate less noise than a gear-type speed changer.

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Re-claim 5 Kajino et al. discloses, as shown in 10, an engine starting apparatus comprising: a driven gear 14; a starter motor 2; a speed-reduction and power-cut-off mechanism, a drive gear 65 provided on the output shaft to move axially over said output shaft between engagement and disengagement position with said driven gear; and a driving unit 3 driving said drive gear to said engagement position when engine is started and to said disengagement position after engine has been started. However Kajino et al. fails to disclose a wedge roller type speed-reduction and power cut-off mechanism. Otaki et al. teaches, as shown in fig. 5-7, the use of a friction-roller type speed reduction mechanism, which can be use instead of gear-type speed changer, including a plurality of rollers 12a-12c rotatably disposed around a rotational shaft 7 of motor 19, a rotatable output shaft 33 having an outer ring 9 disposed around said plurality of rollers, said rotational shaft being offset from a rotational center of said outer ring, one of said rollers being movable between said rotational shaft and said outer ring, see col. 1, lines 4-16. It would have been obvious to one of ordinary skill in the art to have merely utilized the known wedge roller type speed reduction mechanism into the engine starting apparatus of Kajino et al., in view of the teaching of Otaki et al., in order to generate less noise than a gear-type speed changer.

9. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kajino et al. in view of Otaki et al. and in further view of Nelson et al. (U.S. Patent Number 3,945,270).

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Kajino et al. as modified was silent to disclose the use of an oil film between plurality of rollers and rotational shaft. Nelson et al. teaches the use of lubricants between traction rollers and rotational shaft, see col. 8, lines 51-59. It would have been obvious to one of ordinary skill in the art to have merely utilized the known use of lubricants between traction rollers and rotational shaft into the apparatus of Kajino et al. as modified, in order to minimize overheating and wear between the shaft and rollers.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nelson (U.S. Patent Number 4,555,963) discloses a torque limit drive transmission.

Imamura et al. (U.S. Patent Number 4,635,489) discloses starter with planetary gear type speed reducing mechanism.

Kraus (U.S. Patent Number 4,709,589) discloses a fixed ratio traction roller transmission.

Ackermann et al. (U.S. Patent Number 5,533,415) discloses a starter apparatus.

Tanaka et al. (U.S. Patent Number 6,397,808 B1) discloses an engine starter having traction drive type reduction gear and torque transmitting device.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariano Sy whose telephone number is 703-308-3427.

The examiner can normally be reached on Mon.-Fri. from 9:00 A.M to 3:00 P.M.

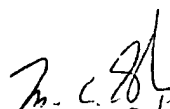
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder, can be reached on (703) 308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

 M. Sy

February 25, 2003

  
2/26/2003  
MATTHEW C. GRAHAM  
PRIMARY EXAMINER  
GROUP 310